

ABSTRACT

Disclosed is a modified electroconductive polymer material, which comprises a metal filled in a space between the chains of an electroconductive polymer. The metal is oxidized (partially formed as a hydroxide) through a chemical reaction between three substances consisting of the metal, a cation radical/dication, and absorbed water. The metal has a work function less than that of the electroconductive polymer. The contact between the metal and the electroconductive polymer is kept in the state of coexistence between three substances consisting of the metal, the cation radical/dication and the absorbed water. This allows an electroconductive polymer material to have enhanced durability against oxidation/reduction, and controlled conductivity.